Section 1. Registration Information

Source Identification

Facility Name:	Bayway Refinery
Parent Company #1 Name:	Phillips 66 Company
Parent Company #2 Name:	

Submission and Acceptance

Submission Type:	Re-submission
Subsequent RMP Submission Reason:	5-year update (40 CFR 68.190(b)(1))
Description:	
Receipt Date:	05-Jul-2019
Postmark Date:	05-Jul-2019
Next Due Date:	05-Jul-2024
Completeness Check Date:	05-Jul-2019
Complete RMP:	Yes
De-Registration / Closed Reason:	
De-Registration / Closed Reason Other Text:	
De-Registered / Closed Date:	
De-Registered / Closed Effective Date:	
Certification Received:	Yes

Facility Identification

EPA Facility Identifier:	1000 0015 7064
Other EPA Systems Facility ID:	07036XXN 1400P
Facility Registry System ID:	

Dun and Bradstreet Numbers (DUNS)

Facility DUNS:	837266469
Parent Company #1 DUNS:	78378508
Parent Company #2 DUNS:	

Facility Location Address

Street 1:	1400 Park Ave.
Street 2:	
City:	Linden
State:	NEW JERSEY
ZIP:	07036
ZIP4:	
County:	UNION

Facility Latitude and Longitude

Latitude (decimal):	40.635278
Longitude (decimal):	-074.222778
Lat/Long Method:	Interpolation - Photo
Lat/Long Description:	Center of Facility
Horizontal Accuracy Measure:	25
Horizontal Reference Datum Name:	North American Datum of 1983
Source Map Scale Number:	24000

Owner or Operator

Operator Name:	Phillips 66 Company
Operator Phone:	(908) 523-5000

Mailing Address

Operator Street 1:	1400 Park Ave.
Operator Street 2:	
Operator City:	Linden
Operator State:	NEW JERSEY
Operator ZIP:	07036
Operator ZIP4:	
Operator Foreign State or Province:	
Operator Foreign ZIP:	
Operator Foreign Country:	

Name and title of person or position responsible for Part 68 (RMP) Implementation

RMP Name of Person:	
RMP Title of Person or Position:	Operations Manager
RMP E-mail Address:	

Emergency Contact

Emergency Contact Name:	Shift Superintendent
Emergency Contact Title:	Shift Superintendent
Emergency Contact Phone:	(908) 523-5472
Emergency Contact 24-Hour Phone:	(908) 523-5472
Emergency Contact Ext. or PIN:	
Emergency Contact E-mail Address:	dave.dolnick@p66.com

Other Points of Contact

Facility or Parent Company E-mail Address:	
Facility Public Contact Phone:	
Facility or Parent Company WWW Homepage Address:	

Local Emergency Planning Committee

LEPC:	Linden City OEM

Full Time Equivalent Employees

Number of Full Time Employees (FTE) on Site:	830
FTE Claimed as CBI:	

Covered By

OSHA PSM :	Yes
EPCRA 302 :	Yes
CAA Title V:	Yes

Air Operating Permit ID:	41805

OSHA Ranking

OSHA Star or Merit Ranking:	

Last Safety Inspection

Last Safety Inspection (By an External Agency) Date:	15-Mar-2019
Last Safety Inspection Performed By an External Agency:	OSHA

Predictive Filing

Did this RMP involve predictive filing?:	

Preparer Information

Preparer Name:	
Preparer Phone:	
Preparer Street 1:	
Preparer Street 2:	
Preparer City:	
Preparer State:	
Preparer ZIP:	
Preparer ZIP4:	
Preparer Foreign State:	
Preparer Foreign Country:	
Preparer Foreign ZIP:	

Confidential Business Information (CBI)

CBI Claimed:	
Substantiation Provided:	
Unsanitized RMP Provided:	

Reportable Accidents

Reportable Accidents:	See Section 6. Accident History below to determine if there were any accidents reported for this RMP.

Process Chemicals

Process ID:	1000100436
Description:	#7 P/S, SDA
Process Chemical ID:	1000125794
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	980000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000108888
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108889
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108890
Chemical Name:	2-Butene
CAS Number:	107-01-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108891
Chemical Name:	2-Butene-cis
CAS Number:	590-18-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108892
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108893
Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108894
Chemical Name:	1-Butene
CAS Number:	106-98-9
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108895
Chemical Name:	2-Methylpropene [1-Propene, 2-methyl-]
CAS Number:	115-11-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108896
Chemical Name:	2-Butene-trans [2-Butene, (E)]
CAS Number:	624-64-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108897
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108898
Chemical Name:	2-Pentene, (E)-
CAS Number:	646-04-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108899

Chemical Name:	2-Pentene, (Z)-
CAS Number:	627-20-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108900
Chemical Name:	1-Pentene
CAS Number:	109-67-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108901
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108902
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108903
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108904
Chemical Name:	Ethylene [Ethene]
CAS Number:	74-85-1
Flammable/Toxic:	Flammable

Process ID:	1000100437
Description:	#2 P/F & Vac. Line
Process Chemical ID:	1000125795
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	1800000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000108905
Chemical Name:	Ethylene [Ethene]
CAS Number:	74-85-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108906
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108907
Chemical Name:	1-Butene
CAS Number:	106-98-9

Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108908
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108909
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108910
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108911
Chemical Name:	Hydrogen
CAS Number:	1333-74-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108912
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108913
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108914
Chemical Name:	2-Methylpropene [1-Propene, 2-methyl-]
CAS Number:	115-11-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108915
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108916
Chemical Name:	2-Butene
CAS Number:	107-01-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108917
Chemical Name:	2-Butene-cis
CAS Number:	590-18-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108918
Chemical Name:	2-Butene-trans [2-Butene, (E)]
CAS Number:	624-64-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108919
Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108920
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Process ID:	1000100438
Description:	53/59 Slop
Process Chemical ID:	1000125796
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	1700000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000108921
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108922
Chemical Name:	Ethylene [Ethene]
CAS Number:	74-85-1
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108923
Chemical Name:	Hydrogen
CAS Number:	1333-74-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108924
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108925
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108926
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108927
Chemical Name:	2-Butene

CAS Number:	107-01-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108928
Chemical Name:	2-Butene-cis
CAS Number:	590-18-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108929
Chemical Name:	2-Butene-trans [2-Butene, (E)]
CAS Number:	624-64-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108930
Chemical Name:	2-Pentene, (E)-
CAS Number:	646-04-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108931
Chemical Name:	2-Pentene, (Z)-
CAS Number:	627-20-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108932
Chemical Name:	1-Pentene
CAS Number:	109-67-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108933
Chemical Name:	1-Butene
CAS Number:	106-98-9
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108934
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108935
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108936
Chemical Name:	2-Methylpropene [1-Propene, 2-methyl-]
CAS Number:	115-11-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108937
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108938
Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108939
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable

Process ID:	1000100439
Description:	VND
Process Chemical ID:	1000125797
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	840000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000108940
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108941
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108942
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108943
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108944
Chemical Name:	2-Butene
CAS Number:	107-01-7
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108945
Chemical Name:	2-Butene-cis
CAS Number:	590-18-1
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108946
Chemical Name:	2-Butene-trans [2-Butene, (E)]
CAS Number:	624-64-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108947

Chemical Name:	2-Pentene, (Z)-
CAS Number:	627-20-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108948
Chemical Name:	2-Methylpropene [1-Propene, 2-methyl-]
CAS Number:	115-11-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108949
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108950
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108951
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108952
Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108953
Chemical Name:	1-Pentene
CAS Number:	109-67-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108954
Chemical Name:	Hydrogen
CAS Number:	1333-74-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108955
Chemical Name:	1-Butene
CAS Number:	106-98-9
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108956
Chemical Name:	2-Pentene, (E)-
CAS Number:	646-04-8
Flammable/Toxic:	Flammable

Process ID:	1000100440
Description:	FCBW/DSU's/USBW/PWTU2/HPU
Process Chemical ID:	1000125798
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture

CAS Number:	00-11-11
Quantity (lbs):	1300000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000108957
Chemical Name:	2-Pentene, (Z)-
CAS Number:	627-20-3
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108958
Chemical Name:	2-Butene-cis
CAS Number:	590-18-1
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108959
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108960
Chemical Name:	Ethylene [Ethene]
CAS Number:	74-85-1
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108961
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108962
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108963
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108964
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108965
Chemical Name:	1-Butene
CAS Number:	106-98-9
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108966
Chemical Name:	1-Pentene
CAS Number:	109-67-1
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000108967
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108968
Chemical Name:	2-Pentene, (E)-
CAS Number:	646-04-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108969
Chemical Name:	2-Butene
CAS Number:	107-01-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108970
Chemical Name:	2-Butene-trans [2-Butene, (E)]
CAS Number:	624-64-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108971
Chemical Name:	2-Methylpropene [1-Propene, 2-methyl-]
CAS Number:	115-11-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108972
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108973
Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108974
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108975
Chemical Name:	Hydrogen
CAS Number:	1333-74-0
Flammable/Toxic:	Flammable

Process ID:	1000100441
Description:	CLEU
Process Chemical ID:	1000125799
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	970000
CBI Claimed:	

Flammable/Toxic: Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID: 1000108976
Chemical Name: Isopentane [Butane, 2-methyl-]
CAS Number: 78-78-4
Flammable/Toxic: Flammable

Flammable Mixture Chemical ID: 1000108977
Chemical Name: 1-Butene
CAS Number: 106-98-9
Flammable/Toxic: Flammable

Flammable Mixture Chemical ID: 1000108978
Chemical Name: 1-Pentene
CAS Number: 109-67-1
Flammable/Toxic: Flammable

Flammable Mixture Chemical ID: 1000108979
Chemical Name: 2-Butene
CAS Number: 107-01-7
Flammable/Toxic: Flammable

Flammable Mixture Chemical ID: 1000108980
Chemical Name: 2-Butene-cis
CAS Number: 590-18-1
Flammable/Toxic: Flammable

Flammable Mixture Chemical ID: 1000108981
Chemical Name: 2-Butene-trans [2-Butene, (E)]
CAS Number: 624-64-6
Flammable/Toxic: Flammable

Flammable Mixture Chemical ID: 1000108982
Chemical Name: 2-Pentene, (E)-
CAS Number: 646-04-8
Flammable/Toxic: Flammable

Flammable Mixture Chemical ID: 1000108983
Chemical Name: 2-Pentene, (Z)-
CAS Number: 627-20-3
Flammable/Toxic: Flammable

Flammable Mixture Chemical ID: 1000108984
Chemical Name: 2-Methylpropene [1-Propene, 2-methyl-]
CAS Number: 115-11-7
Flammable/Toxic: Flammable

Flammable Mixture Chemical ID: 1000108985
Chemical Name: Ethane
CAS Number: 74-84-0
Flammable/Toxic: Flammable

Flammable Mixture Chemical ID: 1000108986
Chemical Name: Ethylene [Ethene]

CAS Number:	74-85-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108987
Chemical Name:	Hydrogen
CAS Number:	1333-74-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108988
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108989
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108990
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108991
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108992
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108993
Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108994
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable

Process ID:	1000100442
Description:	ABW
Process Chemical ID:	1000125800
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	2200000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000108995
Chemical Name:	1-Butene
CAS Number:	106-98-9
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108996
Chemical Name:	2-Butene
CAS Number:	107-01-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108997
Chemical Name:	2-Butene-cis
CAS Number:	590-18-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108998
Chemical Name:	2-Butene-trans [2-Butene, (E)]
CAS Number:	624-64-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000108999
Chemical Name:	2-Methylpropene [1-Propene, 2-methyl-]
CAS Number:	115-11-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109000
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109001
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109002
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109003
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109004
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109007
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109008

Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable

Process ID:	1000100443
Description:	ISOM-2, DDU, CNHT
Process Chemical ID:	1000125801
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	1100000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000109009
Chemical Name:	Hydrogen
CAS Number:	1333-74-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109010
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109014
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109015
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109016
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109017
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Process ID:	1000100444
Description:	FGBW
Process Chemical ID:	1000125802
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11

Quantity (lbs):	150000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000109005
Chemical Name:	2-Butene
CAS Number:	107-01-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109006
Chemical Name:	2-Butene-cis
CAS Number:	590-18-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109011
Chemical Name:	2-Butene-trans [2-Butene, (E)]
CAS Number:	624-64-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109012
Chemical Name:	2-Methylpropene [1-Propene, 2-methyl-]
CAS Number:	115-11-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109013
Chemical Name:	Hydrogen
CAS Number:	1333-74-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109018
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109019
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109020
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109021
Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109022
Chemical Name:	1-Butene
CAS Number:	106-98-9
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109024
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109025
Chemical Name:	Ethylene [Ethene]
CAS Number:	74-85-1
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109026
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109027
Chemical Name:	Methane
CAS Number:	74-82-8
Flammable/Toxic:	Flammable

Process ID:	1000100445
Description:	BIBW, BFBW
Process Chemical ID:	1000125803
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	2700000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000109028
Chemical Name:	1-Butene
CAS Number:	106-98-9
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109029
Chemical Name:	1-Pentene
CAS Number:	109-67-1
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109030
Chemical Name:	2-Butene
CAS Number:	107-01-7
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109031
Chemical Name:	2-Butene-cis
CAS Number:	590-18-1
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109032
Chemical Name:	2-Butene-trans [2-Butene, (E)]

CAS Number:	624-64-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109033
Chemical Name:	2-Methylpropene [1-Propene, 2-methyl-]
CAS Number:	115-11-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109034
Chemical Name:	2-Pentene, (E)-
CAS Number:	646-04-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109035
Chemical Name:	2-Pentene, (Z)-
CAS Number:	627-20-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109036
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109037
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109038
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109039
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109040
Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable

Process ID:	1000100446
Description:	PRBW & PROPYLENE STRG.
Process Chemical ID:	1000125804
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	8900000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000109041
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109042
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109043
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109044
Chemical Name:	Ethylene [Ethene]
CAS Number:	74-85-1
Flammable/Toxic:	Flammable

Process ID:	1000100447
Description:	POLY, PWTU-3
Process Chemical ID:	1000125805
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	310000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000109023
Chemical Name:	1-Butene
CAS Number:	106-98-9
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109045
Chemical Name:	2-Butene-trans [2-Butene, (E)]
CAS Number:	624-64-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109046
Chemical Name:	2-Methylpropene [1-Propene, 2-methyl-]
CAS Number:	115-11-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109047
Chemical Name:	1-Pentene
CAS Number:	109-67-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109048

Chemical Name:	2-Butene
CAS Number:	107-01-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109049
Chemical Name:	2-Butene-cis
CAS Number:	590-18-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109050
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109051
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109052
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109053
Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109054
Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109055
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109056
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109057
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Process ID:	1000100448
Description:	LIGHT ENDS STRG. & RAIL
Process Chemical ID:	1000125806
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture

CAS Number:	00-11-11
Quantity (lbs):	100000000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000109058
Chemical Name:	1-Pentene
CAS Number:	109-67-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109059
Chemical Name:	2-Butene
CAS Number:	107-01-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109060
Chemical Name:	2-Butene-cis
CAS Number:	590-18-1
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109061
Chemical Name:	2-Butene-trans [2-Butene, (E)]
CAS Number:	624-64-6
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109062
Chemical Name:	2-Pentene, (E)-
CAS Number:	646-04-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109063
Chemical Name:	2-Pentene, (Z)-
CAS Number:	627-20-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109064
Chemical Name:	2-Methylpropene [1-Propene, 2-methyl-]
CAS Number:	115-11-7
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109065
Chemical Name:	Butane
CAS Number:	106-97-8
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109066
Chemical Name:	Butene
CAS Number:	25167-67-3
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109067
Chemical Name:	Isobutane [Propane, 2-methyl]
CAS Number:	75-28-5
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109068
Chemical Name:	Isopentane [Butane, 2-methyl-]
CAS Number:	78-78-4
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109069
Chemical Name:	Pentane
CAS Number:	109-66-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109070
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109071
Chemical Name:	1-Butene
CAS Number:	106-98-9
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109072
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable

Process ID:	1000100449
Description:	POLYPROPYLENE
Process Chemical ID:	1000125807
Program Level:	Program Level 3 process
Chemical Name:	Flammable Mixture
CAS Number:	00-11-11
Quantity (lbs):	350000
CBI Claimed:	
Flammable/Toxic:	Flammable

Flammable Mixture Chemical Components

Flammable Mixture Chemical ID:	1000109073
Chemical Name:	Propane
CAS Number:	74-98-6
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109074
Chemical Name:	Ethylene [Ethene]
CAS Number:	74-85-1
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109075
Chemical Name:	Hydrogen
CAS Number:	1333-74-0
Flammable/Toxic:	Flammable

Flammable Mixture Chemical ID:	1000109076

Chemical Name:	Ethane
CAS Number:	74-84-0
Flammable/Toxic:	Flammable
Flammable Mixture Chemical ID:	1000109077
Chemical Name:	Propylene [1-Propene]
CAS Number:	115-07-1
Flammable/Toxic:	Flammable

Process NAICS

Process ID:	1000100436
Process NAICS ID:	1000101673
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries
Process ID:	1000100437
Process NAICS ID:	1000101674
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries
Process ID:	1000100438
Process NAICS ID:	1000101675
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries
Process ID:	1000100439
Process NAICS ID:	1000101676
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries
Process ID:	1000100440
Process NAICS ID:	1000101677
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries
Process ID:	1000100441
Process NAICS ID:	1000101678
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries
Process ID:	1000100442
Process NAICS ID:	1000101679

Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	1000100443
Process NAICS ID:	1000101680
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	1000100444
Process NAICS ID:	1000101681
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	1000100445
Process NAICS ID:	1000101682
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	1000100446
Process NAICS ID:	1000101683
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	1000100447
Process NAICS ID:	1000101684
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	1000100448
Process NAICS ID:	1000101685
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Process ID:	1000100449
Process NAICS ID:	1000101686
Program Level:	Program Level 3 process
NAICS Code:	32411
NAICS Description:	Petroleum Refineries

Section 2. Toxics: Worst Case

No records found.

Section 3. Toxics: Alternative Release

No records found.

Section 4. Flammables: Worst Case

Flammable Worst ID: 1000060001

Model Used:	EPA's RMP*Comp(TM)
Endpoint used:	1 PSI

Passive Mitigation Considered

Blast Walls:	
Other Type:	

Flammable Worst ID: 1000060002

Model Used:	EPA's RMP*Comp(TM)
Endpoint used:	1 PSI

Passive Mitigation Considered

Blast Walls:	
Other Type:	

Section 5. Flammables: Alternative Release

Flammable Alter ID: 1000056397

Model Used:	EPA's RMP*Comp(TM)

Passive Mitigation Considered

Dikes:	
Fire Walls:	
Blast Walls:	
Enclosures:	
Other Type:	

Active Mitigation Considered

Sprinkler System:	
Deluge System:	
Water Curtain:	
Excess Flow Valve:	Yes
Other Type:	

Section 6. Accident History

No records found.

Section 7. Program Level 3

Description

This process includes the No. 7 Pipestill and the Solvent Deasphalting (SDA) unit. The date of the most recent PHA's are 11/27/2018 for No. 7 Pipestill, and 3/05/15 for SDA. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. The vents and rupture disks listed under Process Controls (section 7.4.e) apply only to the No. 7 P/S unit, while the flares and interlocks apply only to the SDA unit. The deluge system listed under mitigation systems (section 7.4.f) applies only to the SDA unit. There have been no incidents in these process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105693
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100436
Description:	#7 P/S, SDA
Prevention Program Level 3 ID:	1000084806
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	27-Nov-2018

The Technique Used

What If:	
Checklist:	
What If/Checklist:	Yes
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	24-May-2022

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	

Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	Yes
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	Yes
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	

None:

Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:

Increase in Chemical Inventory:

Change Process Parameters:

Installation of Process Controls:

Installation of Process Detection Systems:

Installation of Perimeter Monitoring Systems:

Installation of Mitigation Systems:

None Recommended:

None:

Other Changes Since Last PHA or PHA Update:	Recommendations undergoing engineering analysis, P&ID and Car Seal updates, Vessel rerate

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	15-Apr-2019

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	01-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	FA092 - Sump Gas H2S Monitor

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	21-May-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	21-May-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:

Description

This process includes the No. 2 Powerformer (#2 P/F) and the Vacuum Line. The date of the most recent PHA's are 6/13/2016 for #2 P/F, 6/1/15 for the Vacuum Line. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. The vents, scrubbers, and dikes listed under Section 7.4.e and 7.4.f applies only to the #2 P/F. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105694
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11
Process ID:	1000100437
Description:	#2 P/F & Vac. Line
Prevention Program Level 3 ID:	1000084807
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	11-Jul-2016

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	11-Jan-2020

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes

Overfilling:	Yes
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	Yes
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	Yes
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Electronic "fire eyes" are used for fire detection at #2 P/F. Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	

Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Added car seal, DCS alarm changes,routed SV to flare, pump ugrades, procedure changes and vessel rerate

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	09-Apr-2019

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	07-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	PL313 - D223 Level Alarm

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	21-May-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	21-May-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:

Description

This process includes the 53/59 Slop Spheres. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105695
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100438
Description:	53/59 Slop
Prevention Program Level 3 ID:	1000084808
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	01-Jun-2015

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	30-Nov-2017

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	

Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	
Interlocks:	
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	Yes
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	instrumentation designation changes

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	30-Oct-2018

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	14-May-2019
Equipment Tested (Equipment most recently inspected or tested):	NE056 - Sphere 53 Deluge System

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	22-Oct-2018

Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	22-Oct-2018

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:	

Description

This process includes the Virgin Naphtha Debutanizer (VND), Merifiners, and Hydrogen plant. The date of the most recent PHA's are 6/3/15 for VND and Merifiner, and 7/21/14 for the Hydrogen plant. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105696
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100439
Description:	VND
Prevention Program Level 3 ID:	1000084809
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	03-Jun-2015

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	30-Nov-2017

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes

Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	Yes
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Implemented DCS alarm changes, pump upgrades

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	26-Nov-2018

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	01-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	WT202 - Flame Arestor Temperature Alarm

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	13-May-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	13-May-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:	

Description

This process includes the Fluid Catalytic Cracking Unit (FCBW), the 1 & 2 Desulfurization Units (DSU-1 & DSU-2), the Unsaturate Splitter (USBW), and the Process Water Treating Unit No. 2 (PWTU-2). The dates of the most recent PHA's are 4/27/18, 6/8/2015, 1/8/2019, 5/8/2019, and 10/17/2016 for FCBW, DSU-1, DSU-2, USBW, and PWTU-2 respectively. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105697
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100440
Description:	FCBW/DSU's/USBW/PWTU2/HPU
Prevention Program Level 3 ID:	1000084810
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	08-May-2019

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	08-Nov-2022

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes

Corrosion:	Yes
Overfilling:	Yes
Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	Yes
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	Yes
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	Yes
Excess Flow Device:	Yes
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	Yes
Blast Walls:	
Deluge System:	Yes
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	

Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Recommendations undergoing engineeering analysis, updated P&IDs, added alarm, changed critical instrument designation

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	29-Mar-2019

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	20-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	LT205V - D38X High Temperature Fire Water Cut-in

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	14-May-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	14-May-0019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:

Description

This process includes the Cat Light Ends Units No. 2 and No. 3 (CLEU 2 & 3). The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105698
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100441
Description:	CLEU
Prevention Program Level 3 ID:	1000084811
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	10-Oct-2016

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	10-Apr-2020

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes

Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Implemented DCS alarm changes, pump upgrades

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	29-Mar-2019

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	21-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	HX336V - Main Fuel Gas Supply RCS Diagnosis Test

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	13-May-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	13-May-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:	

Description

This process includes the Alkylation Unit. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105699
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100442
Description:	ABW
Prevention Program Level 3 ID:	1000084812
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	08-Mar-2019

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	08-Nov-2022

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	Yes
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	

Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	Yes
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	Yes
None:	
Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Recommendations undergoing engineering analysis.

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	22-Mar-2019

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	14-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	RL015T- D6 Final Acid Settler High Level Shutdown

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	07-May-2019

Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	07-May-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:	

Description

This process includes the butane Isomerization unit (Isom-2), the Distillate Desulfurization Unit (DDU), and the Cat Naphtha Hydrotreating unit (CNHT). The dates of the most recent PHA's are 1/11/16, 1/4/2016, and 6/25/18 for the Isom-2, DDU, and CNHT units respectively. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. The keyed bypass, quench system, and interlock listed under Process Controls (section 7.4.e) applies only to the CNHT. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105700
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100443
Description:	ISOM-2, DDU, CNHT
Prevention Program Level 3 ID:	1000084813
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	05-Jun-2018

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	Yes
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	20-Dec-2021

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	Yes
Polymerization:	
Overpressurization:	Yes

Corrosion:	Yes
Overfilling:	Yes
Contamination:	Yes
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	Yes
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	Yes
Excess Flow Device:	
Quench System:	Yes
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	
Perimeter Monitors:	Yes
None:	

Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Compressor shutdown system updates, P&ID updates, documentation updates

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	10-Dec-2018

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	07-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	ZL053T - D602 High Level Alarm and Shutdown

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	16-Apr-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	16-Apr-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:

Description

This process includes the Fuel Gas Unit and Light Olefins Recovery Unit. PHAs were completed The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105701
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100444
Description:	FGBW
Prevention Program Level 3 ID:	1000084814
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	01-May-2017

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	01-Nov-2020

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes

Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Procedure changes, instrument designation changes, P&ID and car seal list updates

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	11-Dec-2018

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	11-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	DL225 D27 Reflux Drum Low and High Alarms

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	03-May-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	03-May-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:	

Description

This process includes the Butylene Isomerizarion and Butylene Fractionation units. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105702
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100445
Description:	BIBW, BFBW
Prevention Program Level 3 ID:	1000084815
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	01-Jul-2016

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	01-Jan-2020

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes

Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	DCS Configuration updates

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	14-Jan-2019

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	20-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	BIF901 - ESEN Basin Low and High flow

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	20-May-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	20-May-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:	

Description

This process includes the Propylene Recovery unit and the Propylene Storage Spheres. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105703
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100446
Description:	PRBW & PROPYLENE STRG.
Prevention Program Level 3 ID:	1000084816
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	29-Jun-2016

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	22-Dec-2019

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes

Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	Yes
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	Yes
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Instrumentation designation changes, DCS alarm additions

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	15-Mar-2019

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	14-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	PRA170 - 104 Sphere IR Open Path HC Gas Det

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	12-Apr-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	12-Apr-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:	

Description

This process includes the Polymerization unit (POLY) and Process Water Treating Unit No. 3 (PWTU-3) . The date of the most recent PHA's are 3/4/2019 for POLY, and 10/19/2016 for PWTU-3. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105704
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100447
Description:	POLY, PWTU-3
Prevention Program Level 3 ID:	1000084817
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	04-Mar-2019

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	04-Sep-2022

Major Hazards Identified

Toxic Release:	Yes
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes

Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	Yes
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Recommendations undergoing engineering analysis, P&ID updates

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	17-Jan-2019

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	04-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	TA021 - West Area H2S Alarm

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	12-Apr-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	12-Apr-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:	

Description

This process includes the Butane Storage Spheres, Propane Storage Bullets, Propane/Butane Caverns, and the Main (Railcar) Loading Rack (MLR). The most recent PHA dates for the Butane Spheres, Propane Bullets, and Caverns was 4/25/16, and the MLR PHA was 6/29/16. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts. A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105705
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100448
Description:	LIGHT ENDS STRG. & RAIL
Prevention Program Level 3 ID:	1000084818
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	25-Apr-2016

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	25-Oct-2019

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	
Overpressurization:	Yes
Corrosion:	Yes

Overfilling:	Yes
Contamination:	
Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	
Alarms and Procedures:	Yes
Keyed Bypass:	
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	
Dikes:	Yes
Fire Walls:	
Blast Walls:	
Deluge System:	Yes
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	Yes
None:	
Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Instrumentation designation changes, P&ID car seal list updates

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	09-Apr-2019

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	03-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	3L3525S - D2 Low Water Level Float Switch S/D

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	21-May-2019
Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	21-May-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:	

Description

This process includes the Polypropylene unit. The major hazards identified in section 7.4.d were addressed during the PHA's conducted for this process. There have been no incidents in this process within the past 5 years involving the release of an RMP regulated substance which resulted in, or could reasonably have resulted in, imminent and substantial offsite impacts.A narrative description of the facility's prevention program elements can be found in the executive summary.

Program Level 3 Prevention Program Chemicals

Prevention Program Chemical ID:	1000105706
Chemical Name:	Flammable Mixture
Flammable/Toxic:	Flammable
CAS Number:	00-11-11

Process ID:	1000100449
Description:	POLYPROPYLENE
Prevention Program Level 3 ID:	1000084819
NAICS Code:	32411

Safety Information

Safety Review Date (The date on which the safety information was last reviewed or revised):	25-Feb-2019

Process Hazard Analysis (PHA)

PHA Completion Date (Date of last PHA or PHA update):	13-Feb-2019

The Technique Used

What If:	
Checklist:	
What If/Checklist:	
HAZOP:	Yes
Failure Mode and Effects Analysis:	
Fault Tree Analysis:	
Other Technique Used:	
PHA Change Completion Date (The expected or actual date of completion of all changes resulting from last PHA or PHA update):	13-Aug-2022

Major Hazards Identified

Toxic Release:	
Fire:	Yes
Explosion:	Yes
Runaway Reaction:	
Polymerization:	Yes
Overpressurization:	Yes
Corrosion:	Yes
Overfilling:	Yes
Contamination:	

Equipment Failure:	Yes
Loss of Cooling, Heating, Electricity, Instrument Air:	Yes
Earthquake:	
Floods (Flood Plain):	
Tornado:	
Hurricanes:	
Other Major Hazard Identified:	

Process Controls in Use

Vents:	Yes
Relief Valves:	Yes
Check Valves:	Yes
Scrubbers:	
Flares:	Yes
Manual Shutoffs:	Yes
Automatic Shutoffs:	Yes
Interlocks:	Yes
Alarms and Procedures:	Yes
Keyed Bypass:	Yes
Emergency Air Supply:	Yes
Emergency Power:	Yes
Backup Pump:	Yes
Grounding Equipment:	Yes
Inhibitor Addition:	
Rupture Disks:	
Excess Flow Device:	
Quench System:	
Purge System:	
None:	
Other Process Control in Use:	

Mitigation Systems in Use

Sprinkler System:	Yes
Dikes:	Yes
Fire Walls:	Yes
Blast Walls:	
Deluge System:	
Water Curtain:	
Enclosure:	
Neutralization:	
None:	
Other Mitigation System in Use:	Fixed and mobile fire protection equipment, 24 hr. onsite Fire Dept. and Emergency Response Organization.

Monitoring/Detection Systems in Use

Process Area Detectors:	Yes
Perimeter Monitors:	
None:	
Other Monitoring/Detection System in Use:	24 hr. monitoring of process operations with computer-aided instrumentation systems, and operator surveillance.

Changes Since Last PHA Update

Reduction in Chemical Inventory:	
Increase in Chemical Inventory:	
Change Process Parameters:	
Installation of Process Controls:	
Installation of Process Detection Systems:	
Installation of Perimeter Monitoring Systems:	
Installation of Mitigation Systems:	
None Recommended:	
None:	
Other Changes Since Last PHA or PHA Update:	Recommendations undergoing engineering analysis.

Review of Operating Procedures

Operating Procedures Revision Date (The date of the most recent review or revision of operating procedures):	13-Mar-2019

Training

Training Revision Date (The date of the most recent review or revision of training programs):	29-Nov-2017

The Type of Training Provided

Classroom:	Yes
On the Job:	Yes
Other Training:	Computer Based Training

The Type of Competency Testing Used

Written Tests:	Yes
Oral Tests:	Yes
Demonstration:	Yes
Observation:	Yes
Other Type of Competency Testing Used:	Discussion

Maintenance

Maintenance Procedures Revision Date (The date of the most recent review or revision of maintenance procedures):	14-May-2019
Equipment Inspection Date (The date of the most recent equipment inspection or test):	07-Mar-2019
Equipment Tested (Equipment most recently inspected or tested):	PMP306 - P1503 Teal Pump High Pressure Alarm

Management of Change

Change Management Date (The date of the most recent change that triggered management of change procedures):	16-May-2019

Change Management Revision Date (The date of the most recent review or revision of management of change procedures):	22-Apr-2019

Pre-Startup Review

Pre-Startup Review Date (The date of the most recent pre-startup review):	16-May-2019

Compliance Audits

Compliance Audit Date (The date of the most recent compliance audit):	15-Oct-2018
Compliance Audit Change Completion Date (Expected or actual date of completion of all changes resulting from the compliance audit):	31-Jan-2019

Incident Investigation

Incident Investigation Date (The date of the most recent incident investigation (if any)):	
Incident Investigation Change Date (The expected or actual date of completion of all changes resulting from the investigation):	

Employee Participation Plans

Participation Plan Revision Date (The date of the most recent review or revision of employee participation plans):	20-Oct-2014

Hot Work Permit Procedures

Hot Work permit Review Date (The date of the most recent review or revision of hot work permit procedures):	30-Jan-2013

Contractor Safety Procedures

Contractor Safety Procedures Review Date (The date of the most recent review or revision of contractor safety procedures):	07-Feb-2019
Contractor Safety Performance Evaluation Date (The date of the most recent review or revision of contractor safety performance):	11-Jun-2019

Confidential Business Information

CBI Claimed:	

Section 8. Program Level 2

No records found.

Section 9. Emergency Response

Written Emergency Response (ER) Plan

Community Plan (Is facility included in written community emergency response plan?):	Yes
Facility Plan (Does facility have its own written emergency response plan?):	Yes
Response Actions (Does ER plan include specific actions to be taken in response to accidental releases of regulated substance(s)?):	Yes
Public Information (Does ER plan include procedures for informing the public and local agencies responding to accidental release?):	Yes
Healthcare (Does facility's ER plan include information on emergency health care?):	Yes

Emergency Response Review

Review Date (Date of most recent review or update of facility's ER plan):	01-Jan-2019

Emergency Response Training

Training Date (Date of most recent review or update of facility's employees):	30-Apr-2019

Local Agency

Agency Name (Name of local agency with which the facility ER plan or response activities are coordinated):	Linden Fire Dept.
Agency Phone Number (Phone number of local agency with which the facility ER plan or response activities are coordinated):	(908) 298-3801

Subject to

OSHA Regulations at 29 CFR 1910.38:	Yes
OSHA Regulations at 29 CFR 1910.120:	Yes
Clean Water Regulations at 40 CFR 112:	Yes
RCRA Regulations at CFR 264, 265, and 279.52:	Yes
OPA 90 Regulations at 40 CFR 112, 33 CFR 154, 49 CFR 194, or 30 CFR 254:	Yes
State EPCRA Rules or Laws:	Yes
Other (Specify):	NJDEP TCPA

Executive Summary

Executive Summary

ACCIDENTAL RELEASE PREVENTION AND RESPONSE PLAN

The Bayway Refinery is committed to worker and public safety. The recognition and control of risks are instrumental to the safe, efficient, and environmentally compliant operation of the refinery. The refinery's accident prevention and risk management plan is organized to be consistent with the OSHA Process Safety Management regulation, which provided for systematic and comprehensive attention to key elements of process hazard management, addressing issues of technology, personnel, and equipment. This structure facilitates our overall program which emphas accident prevention through safe design, installation, operation, inspection, and maintenance of our processes. Even though we empha the prevention of accidents, we also maintain a highly trained, qualified, and well-equipped emergency response organization to quickly respond to and mitigate an incident should one occur.

DESCRIPTION OF STATIONARY SOURCE AND REGULATED SUBSTANCES

The Bayway Refinery, located in Linden, New Jersey, operates a wide variety of operating processes to convert raw crude oil into useable petroleum products for our customers. The refinery produces many commonly used petroleum products, including gasoline, heating oil, diesel, jet fuel, propane, butane, petrochemical feedstocks and polypropylene. These products and their production account for numerous regulated flammable substances being present on site, including propane, butane, hydrogen, and mixtures of other regulated flammable substances. The Bayway Refinery does not exceed the EPA threshold quantity for any RMP regulated toxic materials.

FIVE-YEAR ACCIDENT HISTORY

The Bayway Refinery has had an excellent accident record over the history of the facility, and has not experienced an incident in the past five years involving the release of a regulated substance which meets the RMP reporting requirements.

GENERAL ACCIDENTAL RELEASE PREVENTION PROGRAM STEPS

The following is a summary of the general prevention program in place at the Bayway Refinery. Because processes at the refinery that are regulated by the EPA RMP regulations are also subject to the OSHA Process Safety Management (PSM) standard, this summary addresses each of the OSHA PSM elements and describes the management system in place to implement the accidental release prevention program. In addition to the OSHA PSM regulation, the refinery is also regulated by the New Jersey Toxic Catastrophe Prevention Act (TCPA) for processes covered by that regulation.

The following elements represent numerous programs and practices that the Bayway Refinery has institutionalized as Management Systems. Through the establishment, review, and continuous improvement of these management systems, the Bayway Refinery demonstrates its commitment to operating a safe, healthy, and environmentally sound facility.

EMPLOYEE PARTICIPATION

The Bayway Refinery encourages employees to participate in all facets of process safety management and accident prevention. Examples of employee participation include safety committee involvement, developing and reviewing safe operating procedures, and participation in the process hazard analysis program. Information on the refinery's prevention program is available to all employees, and they are encouraged to recommend improvements to any of the programs. Specific ways that employees can be involved in the prevention program are documented in the employee participation plan elements of the PSM Management Systems Documentation. Copies of this document are maintained at the refinery and address each element of the accidental release prevention program. In addition to this program, the refinery has a strong commitment to following written policies and procedures, and encourages employee's input to identify when a policy or procedure needs to be changed or improved to cover new tasks, revised regulations, or employee experience. Through this teamwork, a determination can be made to update the policy or procedure, and then train everyone involved on the revised requirements.

PROCESS SAFETY INFORMATON

The Bayway Refinery maintains an extensive library of Process Safety Information which includes information related to chemicals in the process, the technology of the process, and equipment in the process. These documents include detailed information on chemical properties and their associated hazards, limits for key process parameters and specific inventories, and equipment design basis/configuration information. The process safety information is available to all employees, either directly on the unit, via the refinery's intranet, or by contacting their supervisor.

Chemical specific information, including hazards, protective measures, symptoms, and first aid procedures is provided via Material Safety Data Sheets (MSDS's) or Safety Data Sheets (SDS's). For specific process areas, the refinery has documented safety-related limits for specific process parameters (e.g. temperature, pressure, flow, and level). These are documented in the Operating Conditions and Controls section of the unit Operating Manuals. The refinery ensures that the process is maintained within these limits using computer process controls and monitoring instruments, highly trained personnel, and protective instrument systems (e.g. automated shut down systems).

The refinery also maintains technical documentation that provides information about the design and construction of process equipment. This information includes materials of construction, design pressure and temperature ratings, electrical rating of equipment, etc. This information, in combination with written procedures and trained personnel, provides the basis for establishing inspection and maintenance activities, as well as for evaluating proposed process and facility changes to ensure that safety features in the process are not compromised.

PROCESS HAZARD ANALYSIS (PHA)

The Bayway Refinery has a comprehensive program to help ensure that hazards associated with the various processes are identified and controlled. Within this program, each process is systematically examined to identify hazards and ensure that adequate controls are in place to manage these hazards.

The Bayway Refinery primarily utilizes the hazard and operability (HAZOP) analysis technique to perform these evaluations. HAZOP analysis is recognized as one of the most systematic and thorough hazard evaluation techniques. The analyses are conducted by a team representing operating experience, as well as safety and engineering expertise. This team systematically identifies and evaluates hazards of the process as well as existing accident prevention and mitigation measures, and makes suggestions for additional prevention and/or mitigation measures when the team believes such measures are necessary.

The PHA team's recommendations are forwarded to the management of the involved unit or area for resolution. Implementation of mitigation measures in response to PHA findings is based on the relative risk ranking assigned by the PHA team. This ranking helps ensure that potential accident scenarios assigned the highest risk receive immediate attention. All mitigation measures being implemented in response to PHA team findings are tracked until they are resolved. The final resolution of each finding is documented and retained.

To help ensure that the process operation and controls do not eventually deviate significantly from the original design safety parameters, the Bayway Refinery periodically updates and revalidates the hazard analyses. These periodic reviews are conducted at least every five years. The results and findings of these updates are documented and retained. Once again, any team findings are forwarded to the unit or area management for resolution, with the final resolution of the findings documented and retained.

OPERATING PROCEDURES

The Bayway Refinery utilizes written procedures that address various facets of process operations, such as (1) initial startup of a newly constructed process, (2) unit startup, (3) normal operations, (4) temporary operations, (5) normal shutdown, and (6) emergency shutdown. These procedures are located in an operating manual that is used as a reference by unit operators and provides a basis for consistent initial or refresher training of operators. The procedures are maintained by the involved area operating personnel, and are updated to reflect changes identified through the Management of Change process, through refresher training, or changes/improvements identified through normal operating experience. The operating manual is reviewed annually to ensure that it is current, updated, and accurate. The operating procedures are readily available to all personnel to use as necessary to safely perform their job.

OPERATOR TRAINING

To complement the written procedures for process operations, the Bayway Refinery has implemented a comprehensive training program for all employees involved in operating a process. New refinery operations employees (candidates) must successfully complete up to 8 weeks of basic training in refinery operations before being assigned to a unit-specific training program. Basic training addresses applied sciences, job fundamentals, process operations, and understanding basic refining processes and operations. The time necessary to successfully complete unit-specific training varies with the requirements of each job. Typically it requires from 12-18 weeks to qualify as an assistant operator on a specific operating post. Throughout the training process, candidates must continue to qualify by passing written and hands-on tests, thereby demonstrating understanding and retention of the training materials. Full operator qualification can require up to 3 years of field training progression. Refresher training on operating procedures is provided to all operating employees at least every three years, and refresher safety training is performed annually. In addition, classes emphasizing specific topics of concern are offered as necessary (for example, furnace operations, dock operations, etc.).

Operating personnel also receive training in emergency avoidance and emergency operating and fire fighting procedures. Prior to the commissioning of new or modified equipment, written operating procedures are developed and training is provided to all affected operating personnel. All required training is documented.

MECHANICAL INTEGRITY/MAINTENANCE TRAINING

The Bayway Refinery utilizes specific written procedures and design criteria for its operating equipment. Engineering references and resources utilized may include (as applicable) Bayway Engineering Standards, reference to industry standards (such as API, ASME, ANSI, and NFPA), and the use of engineering consultants with expertise in a specific area of design. In addition, process design includes consideration of materials of construction, and piping and equipment configurations to facilitate operability and maintenance.

The Bayway Refinery has well-established practices and procedures to maintain pressure vessels, storage tanks, piping systems, relief and vent systems, instrumentation and emergency shutdown systems, pumps, and compressors in a safe operating condition. The basic aspects of this program include: (1) providing appropriate training for each employee involved in maintaining the on-going integrity of process equipment, (2) developing written procedures, (3) performing appropriate inspections and tests, (4) correcting identified deficiencies, and (5) applying quality assurance measures. In combination, these programs form a system that maintains the mechanical integrity of the process equipment.

Maintenance employees attend up to 8 weeks of initial training on refinery operations, which includes (1) an overview of basic refinery operations, (2) safety and health hazards, (3) applicable maintenance procedures, (4) emergency response plans, and (5) applicable safe work practices to help ensure that they can perform their tasks in a safe manner. In addition to this training, maintenance employees receive craft-specific training appropriate to the type of work they are to perform. Craft-specific training examples may include training as a welder, boilermaker, rigger, machinist, or carpenter etc., and is often accomplished through a combination of classroom and hands-on training and testing. Maintenance employees then receive up to 8 months of on-the-job training before qualifying to independently perform craft-specific tasks. Refresher and specialty training courses are also provided as appropriate. Written safety procedures, identified in the Safe Work Practices manual, help ensure that work is performed in a consistent manner and provides a basis for training.

Preventative maintenance inspections and tests are performed on equipment to help ensure that it functions as intended, and to verify that equipment is within acceptable limits (for example, adequate wall thickness for pressure vessels). If a deficiency is identified, necessary actions are taken to address the deficiency.

Another integral part of the mechanical integrity program is quality assurance. The Bayway Refinery incorporates quality assurance measures into equipment purchases and repairs. This helps ensure that new equipment is suitable for its intended use and that materials and spare parts are used when repairs are made.

CONTRACTORS

The Bayway Refinery utilizes contractors to supplement its maintenance workforce and provide additional expertise and resources

for specialty tasks or peak work periods (maintenance shutdowns for example). Because some contractors work on or near process equipment, the refinery has procedures in place to ensure that contractors (1) perform the work in a safe manner, (2) have the appropriate knowledge and skills for the tasks they are to perform, (3) are aware of the hazards of the workplace, (4) understand what they should do in the event of an emergency, (5) understand and follow the site safety rules, (6) inform refinery personnel of any hazards that their activities may introduce into the plant, and (7) know what to do if they encounter a hazardous condition in the course of their work. This is achieved by pre-qualifying contractors to bid on refinery contracts (documented via the Contactor Qualification Form), and if selected, providing those contractors with pertinent information prior to their beginning work including (1) a process overview, (2) safety and health hazards, (3) emergency response plan requirements, and (4) required safe work practices. Contractor employees attend initial and annual training on Bayway's site-specific safety and health requirements. A program of job site auditing is used to monitor contractor performance. The contractor is also required to perform self-evaluations of their safety programs and resulting performance. Refinery personnel perform periodic formal reviews of the safety and quality of the contractors work while on-site.

PRE-STARTUP SAFETY REVIEW (PSSR)

The Bayway Refinery conducts a PSSR for a new facility or facility modification to ensure that safety features, procedures, personnel, and the equipment are appropriately prepared for startup prior to placing the equipment into service. This review provides one additional check to make sure that construction is in accordance with the design specifications and that all supporting systems are operationally ready. Checklists are utilized to verify all aspects of readiness. A PSSR involves field verification of the construction and serves a quality assurance function by requiring verification that applicable prevention program requirements are properly implemented.

SAFE WORK PRACTICES

The Bayway Refinery has long-standing safe work practices in place for worker and process safety. Example of these include (1) control of the entry/presence/exit of support personnel, (2) a lockout/tagout procedure for isolation of energy sources for equipment undergoing maintenance, (3) a procedure for safe removal of hazardous materials before process piping or equipment is opened, (4) a permit and procedure to control spark producing activities (i.e. hot work), and (5) a permit and procedure so that adequate precautions are in place before entry into a confined space is permitted. These procedures are maintained in the Safe Work Practices manual, which along with training, provides a system so that operations and maintenance activities are performed safely.

MANAGEMENT OF CHANGE

The Bayway Refinery has a comprehensive program to manage changes to unit operations. This system requires that changes to items such as process equipment, chemicals and feedstocks, technology, procedures, and other facility changes are reviewed and authorized before being implemented. Changes are reviewed to (1) determine that adequate controls are in place to manage and control any new hazards, and (2) verify that existing safeguards and process equipment design conditions have not been compromised by the change. Affected chemical hazard information, process operating limits, equipment information, as well as operating procedures are updated to incorporate these changes. In addition, operating or maintenance personnel are provided any necessary training on the modification prior to its start-up.

INCIDENT INVESTIGATION

The Bayway Refinery promptly investigates all incidents which resulted in, or reasonably could have resulted in a fire/explosion, toxic gas release, major property damage, environmental loss, or personal injury. The goal of each investigation is to determine the facts and develop corrective actions to prevent a recurrence of the incident or a similar incident. The investigation team documents it findings, develops recommendations to prevent a recurrence, and provides those recommendations to refinery management for resolution. The investigation team's recommendations are tracked until they are resolved. The final resolution of each recommendation is documented, and the investigation results are reviewed with all workers who could be affected by the findings. The results of the incident investigation are retained for at least 5 years so that they can be reviewed during future PHA's and PHA revalidations.

COMPLIANCE AUDITS

To help the Process Safety Management and accidental release prevention programs function properly, the Bayway Refinery periodically conducts audits to determine whether the procedures and practices required by the programs are being implemented as intended. Employees participate in compliance audits which are conducted at least every three years. The audit team may include employees(s) from other sites and contracted outside consultants. The audit team develops findings that are presented to refinery and area management for resolution. Corrective actions taken in response to audit team findings are tracked until they are complete. Additionally, independent audits are performed by the NJDEP under TCPA regulations.

CHEMICAL SPECIFIC PREVENTION STEPS

The processes at the Bayway Refinery have hazards that are managed for continued safe operation. The accidental release prevention program summarized in this submittal applies to all Program 3 EPA RMP-covered processes at the Bayway Refinery. Collectively these prevention program activities help prevent potential accident scenarios that could be caused by equipment failure or human error.

In addition to the prevention program activities, the Bayway Refinery has safety features on many units to help (1) contain/control a release, (2) quickly detect a release, and (3) reduce the consequences of (mitigate) a release. The following types of safety devices are used in various processes throughout the refinery to help prevent incidents: relief valves, rupture disks, check valves, excess flow valves, remotely operated valves, flare systems, automatic interlocks and shutdown systems, hydrocarbon detectors, manual block valves, process alarms (level, temperature, flow, pressure), and computer aided control systems. The following types of safety features are used in various processes throughout the refinery to help mitigate (reduce the effects of) incidents: sprinkler systems, deluge systems, fixed fire water monitors, diking/containment berms, fire fighting foam systems, supplemented by in-plant emergency response capabilities 24 hours a day.

EMERGENCY RESPONSE

The Bayway Refinery maintains a written emergency response plan to protect its workers and the public, as well as the environment. The program includes procedures for responding to the release of a regulated substance, including the possibility of a fire or explosion. The procedures address all aspects of emergency response, including notification of local emergency response organizations, proper first-aid and medical treatment for exposures, evacuation and shelter in place (safe haven) plans, accounting for personnel after an evacuation, notifications to regulatory agencies, and post incident cleanup and decontamination. The Bayway Refinery utilizes the Incident Command System of incident management in cooperation with local emergency response personnel. The refinery also has procedures that address the maintenance, inspection, and testing of emergency response equipment, as well as instructions and training that addresses the use of the equipment. Employees receive training in these procedures as necessary to reflect changes in refinery processes and suggestions for improvement. Training on changes is presented to affected workers.

Professional emergency responders ae on-site 24 hours/day, 7 days/week, as part of the Bayway Refinery Fire Brigade, Hazardous Materials Teams, Rescue Team, and/or Emergency Medical Technician (EMT) organizations. Frequent training and participation in emergency drills ensures the readiness of the response organization.

The overall emergency response program for the Bayway Refinery is coordinated with the Linden Local Emergency Planning Committee (LEPC). This coordination includes periodic meeting of the committee, which includes local emergency response officials, local government officials, and industry representatives. The Bayway Refinery has around-the-clock communications capability with appropriate LEPC officials and emergency responders. This provides a means of notifying the public of an incident and facilitating a quick response. The Bayway Refinery conducts periodic drills and training sessions with the local emergency responders.

PLANNED CHANGES TO IMPROVE SAFETY

Continuous Improvement: The Bayway Refinery continuously seeks and evaluates methods to improve the safety of its operations. Recommendations from audits, incident investigations, process hazard analyses, or employee suggestions provide opportunities to enhance the safety of the refinery. Improvements in technology provide another opportunity to enhance facility safety, for example, the refinery discontinued the use of chlorine for both water treatment and catalyst regeneration with less hazardous alternate chemicals.

Refinery Management continues to work with the Bayway Unions to explore application to OSHA's Voluntary Protection Program (VPP) Star recognition program. This program is a cooperative effort by employees, management, and OSHA to develop and recognize exemplary safety performance. It is recognized that Management and the Unions working together with OSHA to continuously improve personnel and process safety, health and environmental performance is more effective than working separately toward that same goal.